

# COURSE SYLLABUS

<b>LAST REVIEW</b>	Spring 2021
<b>COURSE TITLE</b>	Pharmacology Administration
<b>COURSE NUMBER</b>	MEDA 0130
<b>DIVISION</b>	Health Professions
<b>DEPARTMENT</b>	Medical Assistant
<b>CIP CODE</b>	51.0801
<b>CREDIT HOURS</b>	2
<b>CONTACT HOURS/WEEK</b>	Class: 1                      Lab: 2
<b>PREREQUISITES</b>	None
<b>COURSE PLACEMENT</b>	This course is part of a selective admission program. Students must be admitted to the Medical Assistant program to enroll in this course.

## COURSE DESCRIPTION

MEDA 0130 is an introductory course in pharmacology that provides the student with the basic knowledge of pharmacologic principles, history and legal requirements along with principles of administration. This course will also review basic mathematic principles involved in solving computations related to pharmacology administration.

## PROGRAM ALIGNMENT

This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:

[https://kansasregents.org/workforce\\_development/program-alignment](https://kansasregents.org/workforce_development/program-alignment)

## PROGRAM LEARNING OUTCOMES

1. Define diseases and related treatments for the body systems.
2. Demonstrate clinical and laboratory skills necessary for entrylevel employment.
3. Practice basic principles and practices of safe pharmacological administration.
4. Modify communication to effectively interact with and provide education to patients of varying backgrounds.
5. Select appropriate reference materials to enhance performance of job functions and patient education.
6. Comply with principles of records management to complete incident reports, documentation, data entry and electronic health records.
7. Demonstrate legal, ethical, and safe behaviors when performing the duties of the medical assistant.

## **TEXTBOOKS**

<http://kckccbookstore.com/>

## **METHODS OF INSTRUCTION**

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

## **COURSE OUTLINE**

- I. Basic Arithmetic Skills
  - A. Fractions and Decimals
  - B. Proportions
  - C. Addition, Subtraction, Multiplication and Division
  
- II. Conversions
  - A. Interpretation and Expression for Metric, Apothecary, and Household
  
- III. Measurement
  - A. Appropriate equipment
  - B. Calibrations/Markings of medication equipment
    1. Syringes
    2. Cups
    3. Graduated Cylinders
  
- IV. Medication Orders
  - A. Medical Notation and Administration
  - B. Drug Labels
  
- V. Drug Dosages
  - A. Tablets, Capsules, and Liquids
  - B. Parenteral
  - C. Reconstitution
  - D. Body Weight Method and Body Surface Area
  - E. Safe Dosage
  
- VI. Intravenous Calculations
  - A. Milliliters per Hour
  - B. Drops per Minute
  - C. Infusion Time and Fluid Volumes
  
- VII. Pharmacologic terms, abbreviations, and symbols

- A. Medication Terminology
- B. Abbreviations
- C. Symbols
- VIII. Legal Aspects of medications
  - A. Drug Legislation and Drug Standards
    - 1. American Drug Legislation
    - 2. Drug Standards
    - 3. Proprietary (Trade) Names
  - B. Controlled Substance Act & Classifications
  - C. Administration of Medications
    - 1. Guidelines for Safety in Drug Administration
    - 2. Methods of Drug Administration
  - D. Labeling Requirements
  - E. Taking Medication Orders
  - F. Six Rights of Medication Administration
  - G. Drug References
- IX. Administration of medications
  - A. Parenteral medications (excluding intravenous)
  - B. Oral Medications
  - C. Transdermal Medications
  - D. Inhaled Medications
- X. Documentation
  - A. Medical abbreviations, signs, and symbols
  - B. Accuracy
  - C. Incident reports

### **COURSE LEARNING OUTCOMES AND COMPETENCIES**

Upon successful completion of this course, the student will:

- A. Demonstrate mastery of basic arithmetic skills.
  - 1. Add, subtract, multiply, divide, compare, and round fractions and decimals.
  - 2. Convert among fractions, decimals and percents.
  - 3. Solve proportions.
- B. Perform conversions.
  - 4. Interpret and properly express metric, apothecary, and household notation.
  - 5. Convert units within and between the systems of measurement.
- C. Measure prescribed dosages using appropriate equipment.

6. Recognize and select appropriate equipment to administer prescribed dosages.
7. Read and interpret the calibrations on the equipment for the medication and dosage as ordered.

- D. Interpret the medication order
  - 8. Read, understand, and write the notation that specifies the dosage, route, and frequency of the medication to be administered.
  - 9. Understand and use the components of drug labels in the administration of prescribed dosages.
- E. Calculate drug dosages.
  - 10. Calculate the number of tablet/capsules or volume of liquid.
  - 11. Calculate the milliliters of parenteral dosages.
  - 12. Reconstitute medication supplied in powder or dry form.
  - 13. Calculate pediatric dosages using the body weight method.
  - 14. Calculate pediatric dosages using the body surface area method (BSA).
  - 15. Identify safe dosage.
- F. Calculate intravenous rates.
  - 16. Calculate IV flow rate in milliliters per hour (mL/h).
  - 17. Calculate IV flow rate in drops per minute (gtts/min).
  - 18. Calculate IV infusion time and fluid volumes.
- G. Identify basic pharmacologic terms, abbreviations, and symbols related to medication management.
  - 19. Explain the pharmacologic term using prepared medication administration record.
  - 20. Explain the pharmacologic abbreviations using a prepared medication administration record.
  - 21. Explain the pharmacologic symbol using a prepared medication administration record.
- H. Examine federal laws and regulations as they relate to use of medications in clinical practice.
  - 22. Reference the Food, Drug and Cosmetic Act and Amendments of 1951 and 1965.
  - 23. Describe the schedules and examples of drugs listed in the Controlled Substance Act.
  - 24. Describe the responsibility of the practitioner in dispensing and administering medication in regard to legislation and other governing bodies.
  - 25. Explain the labeling requirements and the legal components of a prescription.
  - 26. Define who can give and receive a medication order.
  - 27. Demonstrate the six rights of medication administration.
  - 28. Use common medication/drug reference books correctly.
  - 29. Discuss the differences between proprietary, trade and generic drug names.
- I. Administer parenteral medications (excluding intravenous).
  - 30. Verify ordered doses/dosages prior to administration.
  - 31. Select proper sites for administering parenteral medication.

- 32. Administer parenteral (excluding IV) medications.
- J. Administer oral medication.
  - 33. Verify ordered doses/dosages prior to administration.
  - 34. Administer oral medications.
- K. Administer transdermal medication.
  - 35. Verify ordered doses/dosages prior to administration.
  - 36. Administer transdermal medication.
- L. Administer inhaled medication.
  - 37. Verify ordered doses/dosages prior to administration.
  - 38. Administer inhaled medication.
- M. Document information related to the administration of medication.
  - 39. Use medical abbreviations, signs, and symbols in charting.
  - 40. Document accurately in the patient record.
  - 41. Complete incident report when warranted.

### **ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES**

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

### **COLLEGE POLICIES AND PROCEDURES**

*Student Handbook*

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

*College Catalog*

<https://www.kckcc.edu/academics/catalog/index.html>

*College Policies and Statements*

<https://www.kckcc.edu/about/policies-statements/index.html>

*Accessibility and Accommodations*

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>